

CLAIMS

What is claimed is:

1. (currently amended) A protective coating, comprising:
a base compound;
a plurality of shape memory alloy (SMA) particles dispersed in said base compound;
said SMA particles being in an austenitic state;
wherein a stress induced phase change property of said SMA particles is used
to enhance a compression-after-impact strength of said coating.
2. (original) The coating of claim 1, wherein said SMA particles comprise a diameter of between about 50 microns and about .005 microns.
3. (previously presented) The coating of claim 1, wherein said SMA particles comprise nickel-titanium alloy particles.
4. (previously presented) The coating of claim 1, wherein said nickel-titanium alloy particles are shaped in accordance with at least one of the shapes from the group comprising: a sphere; an oval and a cylinder.
5. (original) The coating of claim 1, wherein said SMA particles comprise granules that are randomly dispersed within said base compound.

6. (original) The coating of claim 1, wherein said SMA particles comprise at least about 1.0% by volume of said base compound.

7. (original) The coating of claim 1, wherein said SMA particles comprise between about 1.0% and about 50% by volume of said base compound.

8. (original) The coating of claim 1, wherein said SMA particles are dispersed randomly and uniformly throughout said coating.

9. (original) The coating of claim 1, wherein said coating comprises a paint.

10. (cancelled).

11. (previously presented) The coating of claim 1, wherein said SMA particles comprise nickel-titanium alloy particles in their austenitic phase.

12. (original) The coating of claim 1, wherein said SMA particles have a size comprising at least about 50 microns.

13. (original) The coating of claim 1, wherein said SMA particles have a size of no more than about 0.005 microns.

14. (currently amended) A paint having enhanced impact resistance, comprising:

a base paint;

a plurality of shape memory alloy (SMA) particles distributed in said base paint;

said SMA particles being in an austenitic state;

wherein a stress induced phase change property of said SMA particles ~~operate~~is used to improve an impact resistance of said base paint.

15. (original) The paint of claim 14, wherein said SMA particles comprise a diameter of between about 5 microns and about .005 microns.

16. (previously presented) The paint of claim 14, wherein said SMA particles comprise nickel-titanium alloy particles.

17. (original) The paint of claim 14, wherein said SMA particles are distributed randomly and generally uniformly throughout said base paint.

18. (original) The paint of claim 14, wherein said SMA particles comprise a shape in accordance with one of a group of shapes comprising: a sphere; an oval; and a cylinder.

19. (original) The paint of claim 14, wherein said SMA particles comprise at least about 1.0% by volume of said base paint.

20. (original) The paint of claim 14, wherein said SMA particles comprise between about 1.0% and about 50% by volume of said base paint.

21. (original) The paint of claim 14, wherein said SMA particles comprise granules interspersed randomly throughout said base paint.

22. (canceled).

23. (canceled).

24. (original) The paint of claim 14, wherein said SMA particles comprise a size of at least about 50 microns.

25. (original) The paint of claim 14, wherein said SMA particles comprise a size of no more than about 0.005 microns.

26. (currently amended) A protective outer coating adapted to applied in a liquid form to an outer surface of a component, said protecting coating comprising:
a flowable base compound;
a plurality of nickel-titanium alloy particles interspersed randomly and uniformly throughout said base coating ;
said nickel-titanium alloy particles being provided in an austenitic phase; and
wherein a stress induced phase change property of said nickel-titanium alloy particles ~~serves~~serves to improve an impact resistance of said base paint without negatively ~~impacting~~affecting an ability to apply said protective outer coating to said outer surface of said component.

27. (previously presented) The protective outer coating of claim 26, wherein said nickel-titanium alloy particles comprise a diameter of between about 50 microns and about .005 microns.

28. (previously presented) The protective outer coating of claim 26, wherein said nickel-titanium alloy particles comprise at least about 1.0% by volume of said base compound.

29. (previously presented) The protective outer coating of claim 26, wherein said nickel-titanium alloy particles comprise between about 1.0% and about 50% by volume of said base compound.

30. (previously presented) The protective outer coating of claim 26, wherein said nickel-titanium alloy particles comprise a spherical shape.

31. (previously presented) The protective outer coating of claim 26, wherein said nickel-titanium alloy particles comprise an oval shape.

32. (previously presented) The protective outer coating of claim 26, wherein said a nickel-titanium alloy particles comprise a cylindrical shape.

33. (previously presented) The protective outer coating of claim 26, wherein said nickel-titanium alloy particles comprise a size of at least about 50 microns.

34. (previously presented) The protective outer coating of claim 26, wherein said nickel-titanium alloy particles comprise a size of no more than about 0.005 microns.

35. (previously presented) The protective outer coating of claim 26, wherein said nickel-titanium alloy particles comprise granules interspersed randomly and uniformly throughout said base compound.

36. (original) The protective outer coating of claim 26, wherein said protective outer coating comprises a paint.